



Apurba Manna

M.Tech. Applied Mathematics and Scientific Computing
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Indian Institute of
Technology
Roorkee



Area of Interest

AI, ML, NLP, Cloud Services, DBMS, Generative AI, LLMs.

Education

Year	Degree/Examination	Institution/Board	CGPA/Percentage
2025	M.Tech	Indian Institute of Technology, Roorkee	8.650
2021	Postgraduate (PG)	Vidyasagar University	8.650
2019	Graduate (UG)	Vidyasagar University	59.12 %

Experience

Product Engineer | AI CERTS

Sep 2025 - Present

- Developing an **Autonomous Content Agent System (MVP)** — a multi-agent automation pipeline for content ideation, competitive gap analysis, and repurposing, leveraging **OpenAI Agents SDK** and **modular orchestration** with Python.
- Building an **Autonomous Competitor Monitoring System** to track competitor LinkedIn updates (via **Apify**) and website changes, generating **daily AI-driven alerts and summaries** for marketing intelligence.
- Working on **end-to-end automation workflows** for marketing content research and generation, integrating **data scraping, LLM-based analysis, and multi-agent coordination** for operational efficiency.

AI ML Engineer | mTouch Labs

June 2025 - Sep 2025

- Worked on **voice-based food ordering agent** using **Google STT, OpenAI LLMs** for decision-making, and **ElevenLabs TTS**, integrated with **Twilio** for real-time phone call handling and **natural voice interruption detection** using voice heat.
- Built an **RAG-based document understanding platform** leveraging the Unstructured library, recursive text chunking, and PostgreSQL to extract and retrieve structured and visual data from documents.
- Designed a **multi-agent system** using **LangGraph** to interpret user queries, interact with MySQL databases, and automate complex conversational workflows with context and memory retention.

Internships

AI/ML Intern | mTouch Labs

March 2025 - June 2025

- Developing a **real-time AI voice assistant** using **NVIDIA Riva (ASR/TTS)** and **Llama 3 (Groq)** for advanced **natural language** understanding, integrated with **Exotel** for telephony-based conversations.
- Implementing **low-latency conversational pipeline** with **real-time interruption handling** to enable intelligent, human-like interactions for virtual receptionist and customer support use cases.
- Building a **LangGraph-based ride booking assistant**, enabling context-aware, multi-turn task flows for booking management with **stateful dialogue handling**.

AI Intern | AI Chef Master

August 2024 - November 2024

- Developed a **recommendation system** that improved food ingredient suggestions by **25%** using **collaborative and content-based filtering** and integrated a **user-friendly GUI** with **Streamlit** on the website.
- Engineered an **AI chatbot** using **LlamaIndex** and **Hugging Face** models, capable of retrieving answers from documents via semantic search, with **Mistral-7B-Instruct** for enhanced response accuracy.

Projects

Stock Sentiment Analysis Using Machine Learning Techniques | Finance Club, IIT Roorkee

May 2024 - June 2024

- Performed sentiment analysis on 10+ million financial news articles from sources like Financial Times and BBC using web scraping and APIs, achieving 80% classification accuracy with Random Forest.
- Implemented LSTM for stock price forecasting, achieving a low RMSE of 0.03, enabling identification of optimal buy/sell points to support investment strategies.

Awards / Scholarships / Academic Achievements

- Winner in the event Express to Inspire held on Sep. 27, 2023, by Wellness Centre, IIT Roorkee
- Graduate Aptitude Test in Engineering (GATE) 2023 with AIR 309

Skills

Computer languages Python, MySQL

Software Packages Power BI, Tableau, Jupyter, Google Colab

Languages Known English, Bengali, Hindi

Positions of Responsibility & Extra Curriculars

Artist | Bangiya Sangeet Parishad

December 2014 - February 2018

- Placed in first division with distinction in theory and practical and is awarded 5th year "Ankan Bivakar".